

## Fortnightly eFolio Submission - Studio 4

### STUDENT NAME AND ID

Hao Xu 32767919

### SELF-EVALUATION:

High Distinction

### TASK 4.1 (MODLE-FIRST APPROACH)

Project GitHub Link:

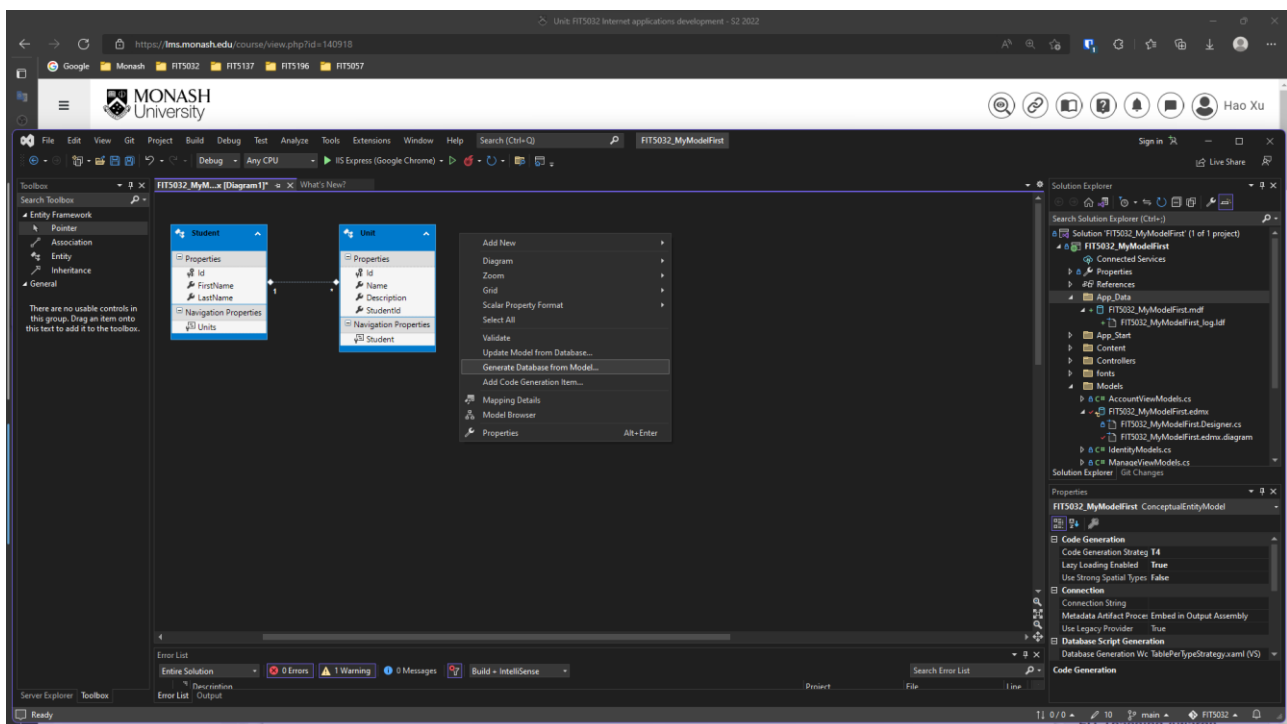
[https://github.com/BrantleyXU/FIT5032/tree/main/week04/FIT5032\\_MyModelFirst](https://github.com/BrantleyXU/FIT5032/tree/main/week04/FIT5032_MyModelFirst)

Database Code Link:

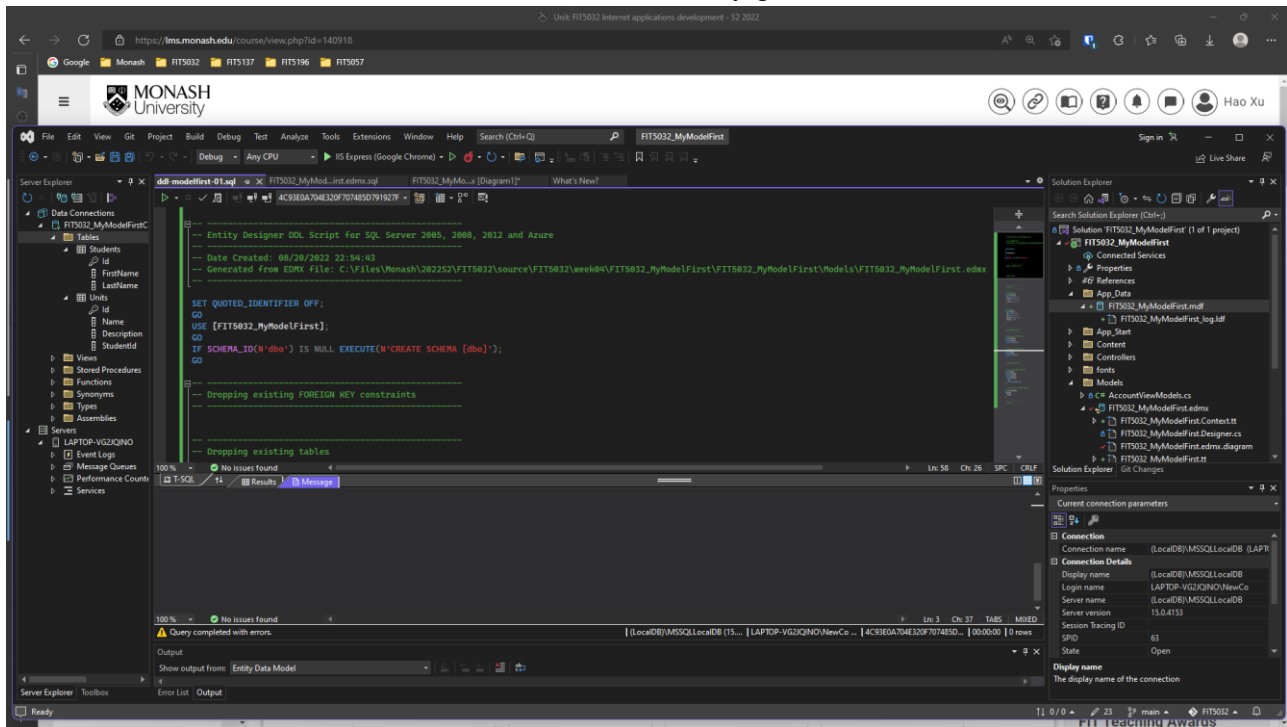
[https://github.com/BrantleyXU/FIT5032/blob/main/week04/FIT5032\\_MyModelFirst/ddl-modelfirst-01.sql](https://github.com/BrantleyXU/FIT5032/blob/main/week04/FIT5032_MyModelFirst/ddl-modelfirst-01.sql)

### Screenshots and Explanations:

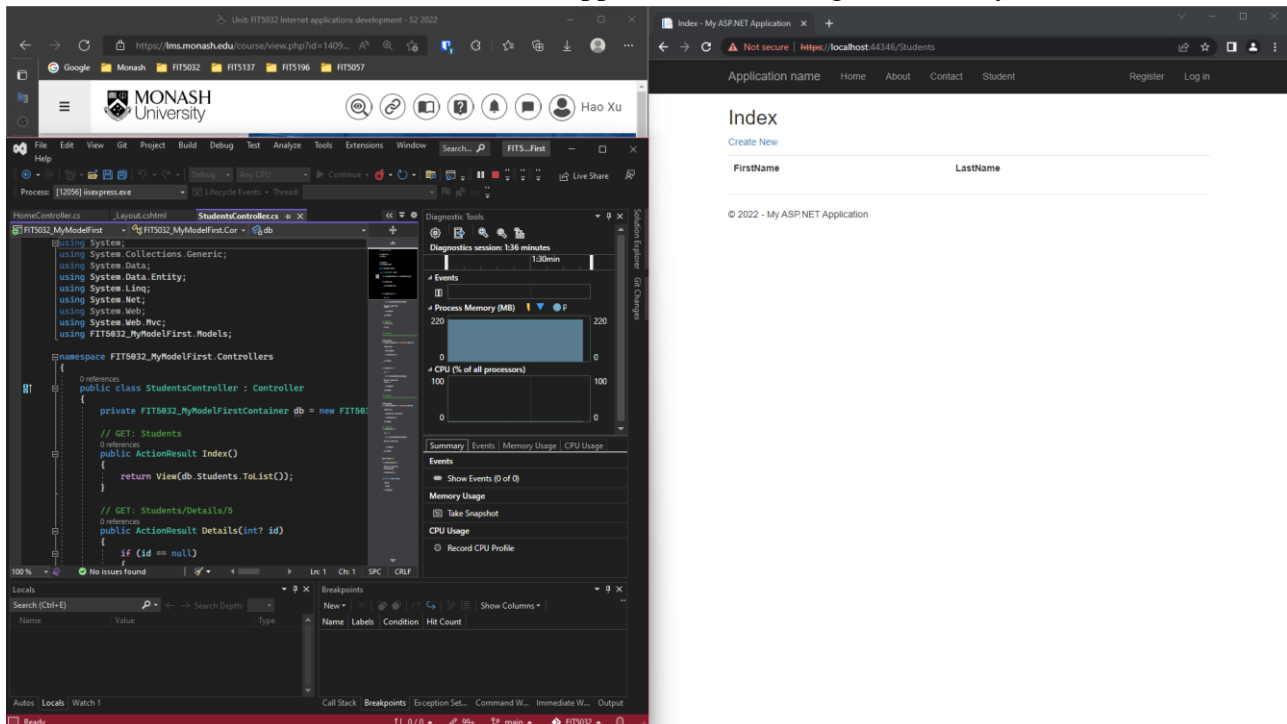
In this screenshot, a model has been manually created. The database will be generated based on this schema:



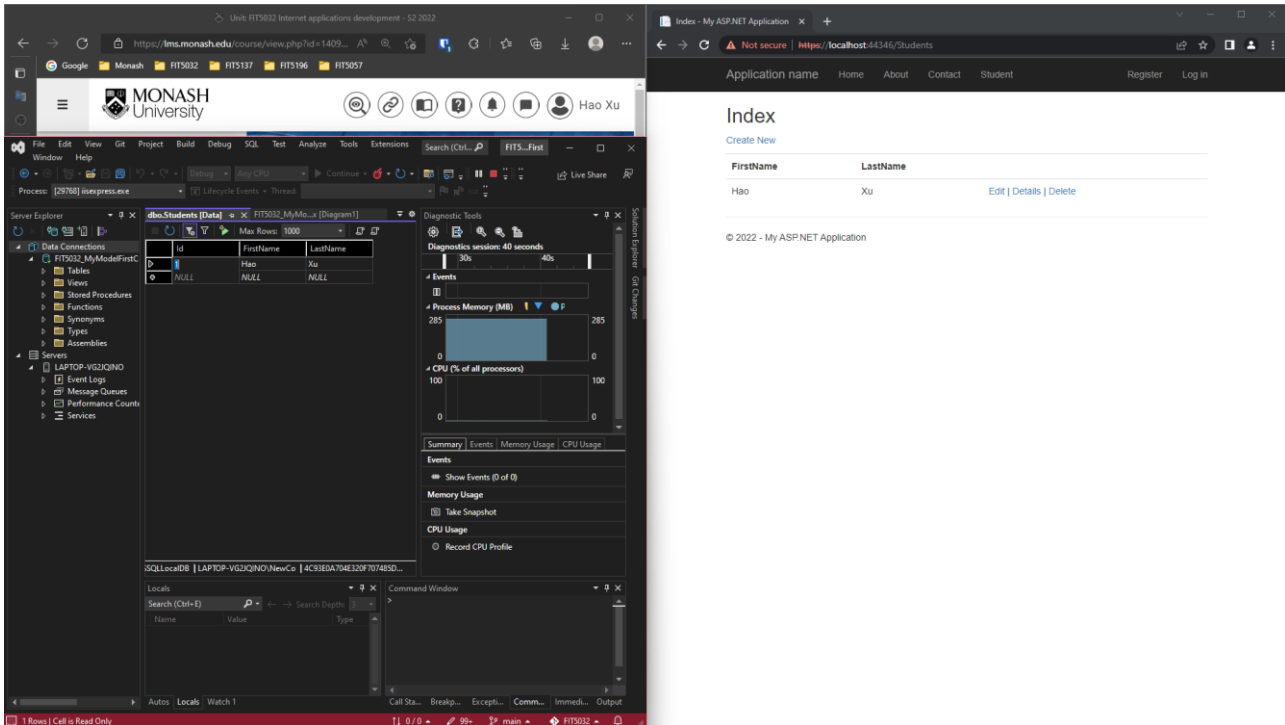
In this screenshot, a database code has been automatically generated:



This screenshot shows the ASP.NET MVC application is running successfully:



This screenshot shows that the database can be used successfully:



The screenshot displays two windows side-by-side. The left window is Visual Studio, showing a project named 'FIT5032' with a solution explorer on the left. The 'Data' tab is active, showing a table named 'Students' with columns 'Id', 'FirstName', and 'LastName'. The table contains one row with values '1', 'Hao', and 'Xu'. The right window is a web browser showing the 'Index' page of an ASP.NET application. The page has a navigation bar with links: 'Application name', 'Home', 'About', 'Contact', 'Student', 'Register', and 'Log in'. The main content area displays the 'Index' page with a 'Create New' link and a table with columns 'FirstName' and 'LastName'. The table contains one row with values 'Hao' and 'Xu'. Below the table, there is a link 'Edit | Details | Delete'. The footer of the page shows '© 2022 - My ASP.NET Application'.

## TASK 4.2 (CODE-FIRST APPROACH)

### Project GitHub Link:

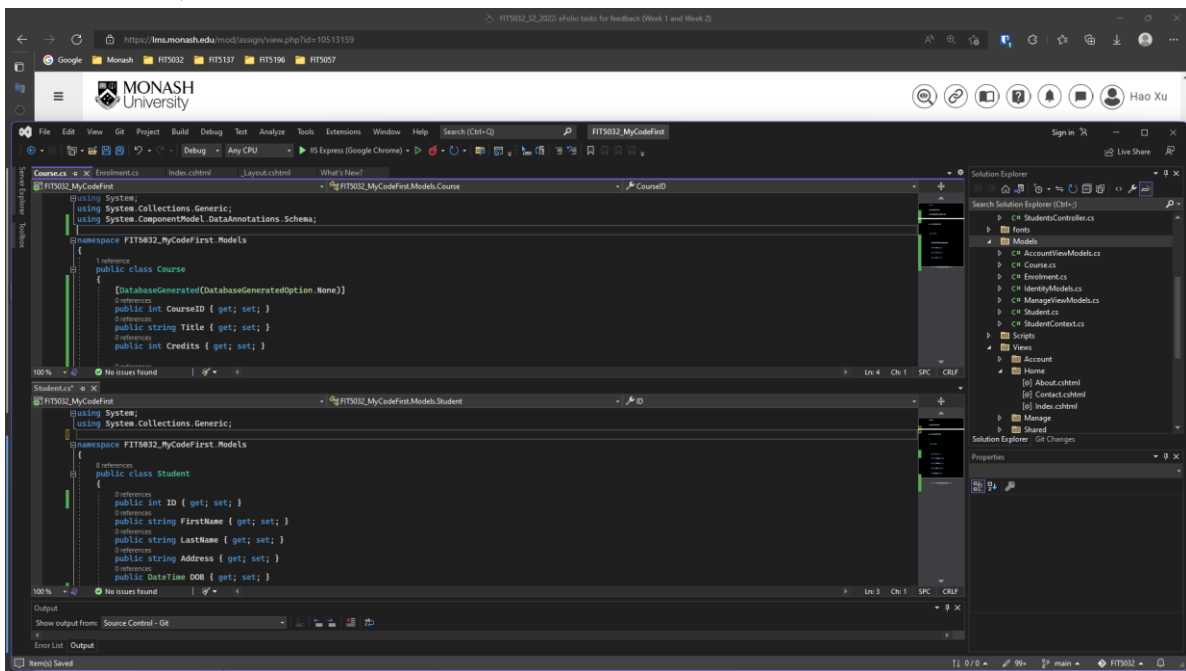
[https://github.com/BrantleyXU/FIT5032/tree/main/week04/FIT5032\\_MyCodeFirst](https://github.com/BrantleyXU/FIT5032/tree/main/week04/FIT5032_MyCodeFirst)

### Database Code Link:

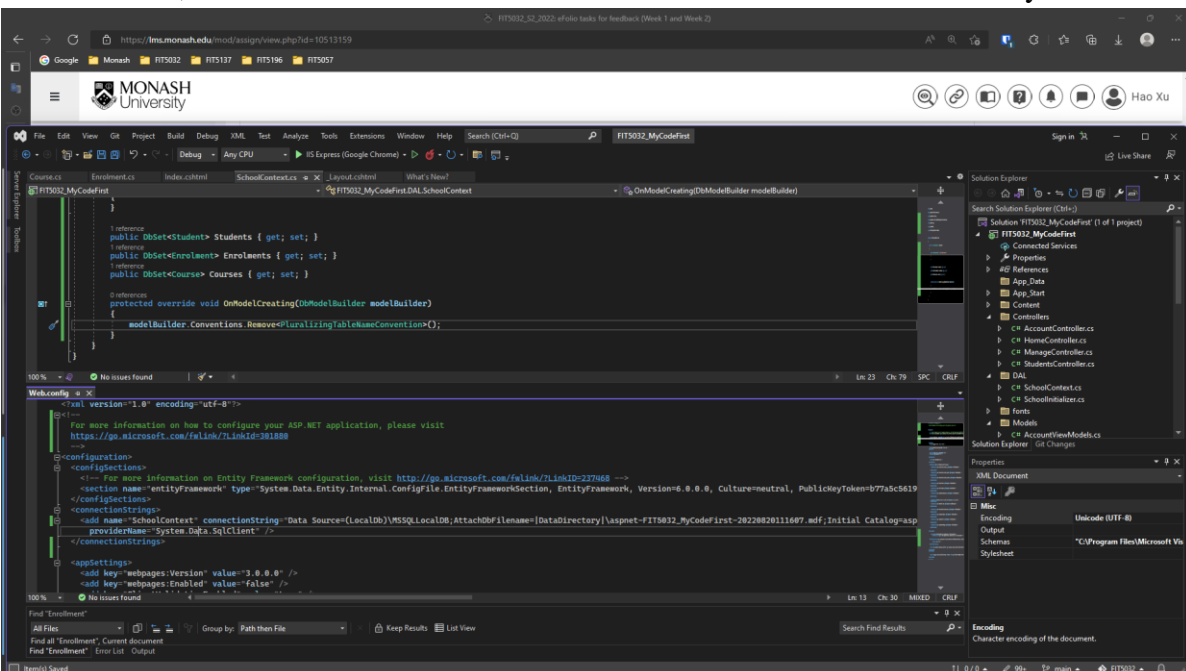
[https://github.com/BrantleyXU/FIT5032/blob/main/week04/FIT5032\\_MyCodeFirst/ddl-my-code-first.sql](https://github.com/BrantleyXU/FIT5032/blob/main/week04/FIT5032_MyCodeFirst/ddl-my-code-first.sql)

### Screenshots and Explanations:

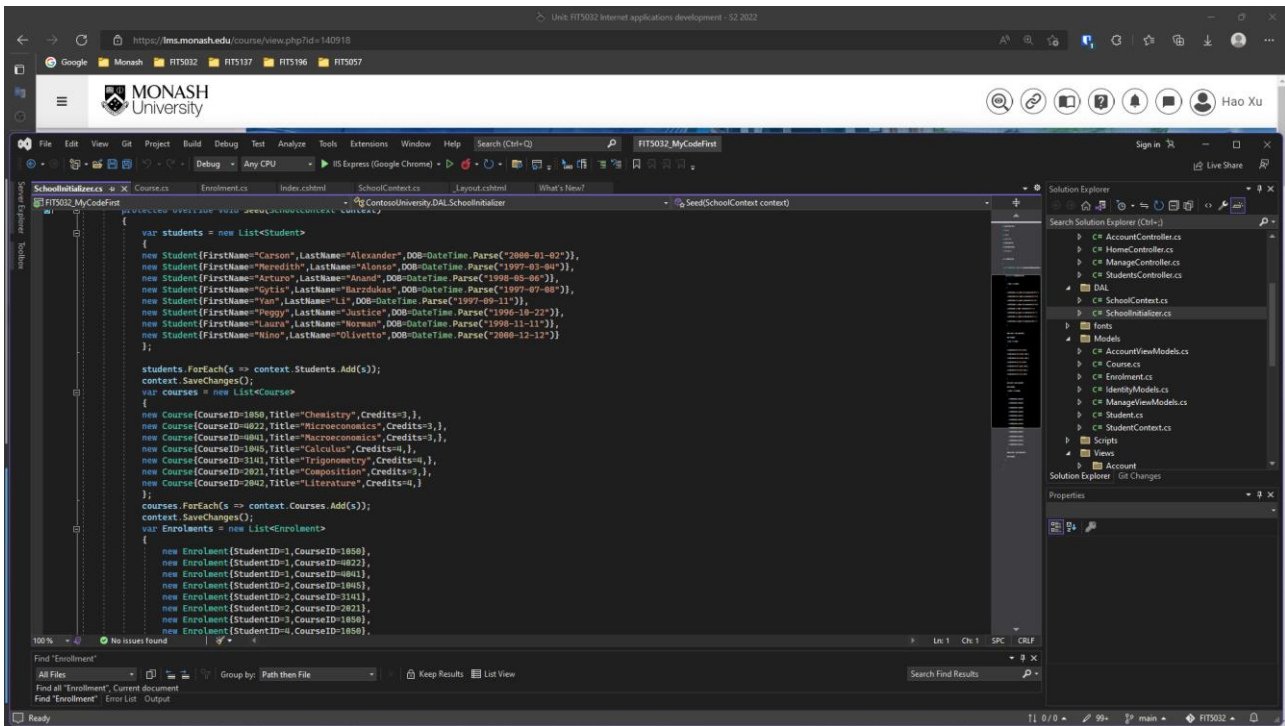
In this screenshot, C# codes for Student model is first created:



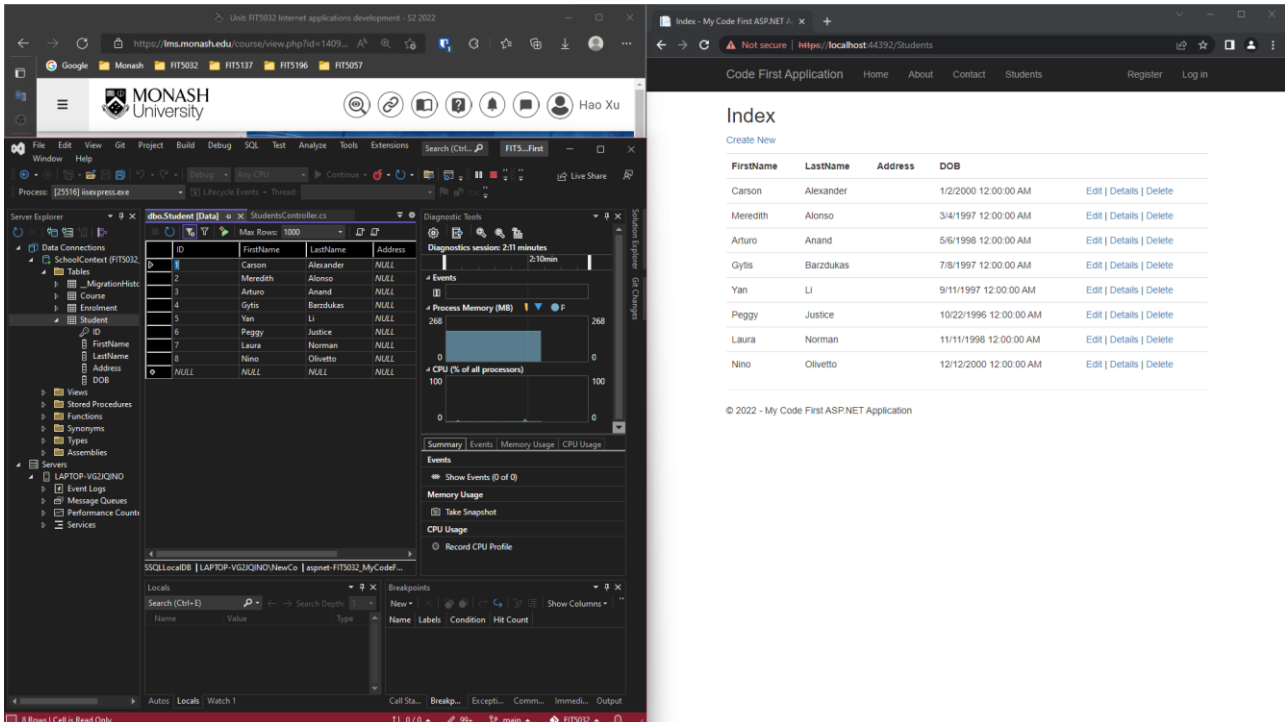
In this screenshot, the database context and initializer have been created successfully:



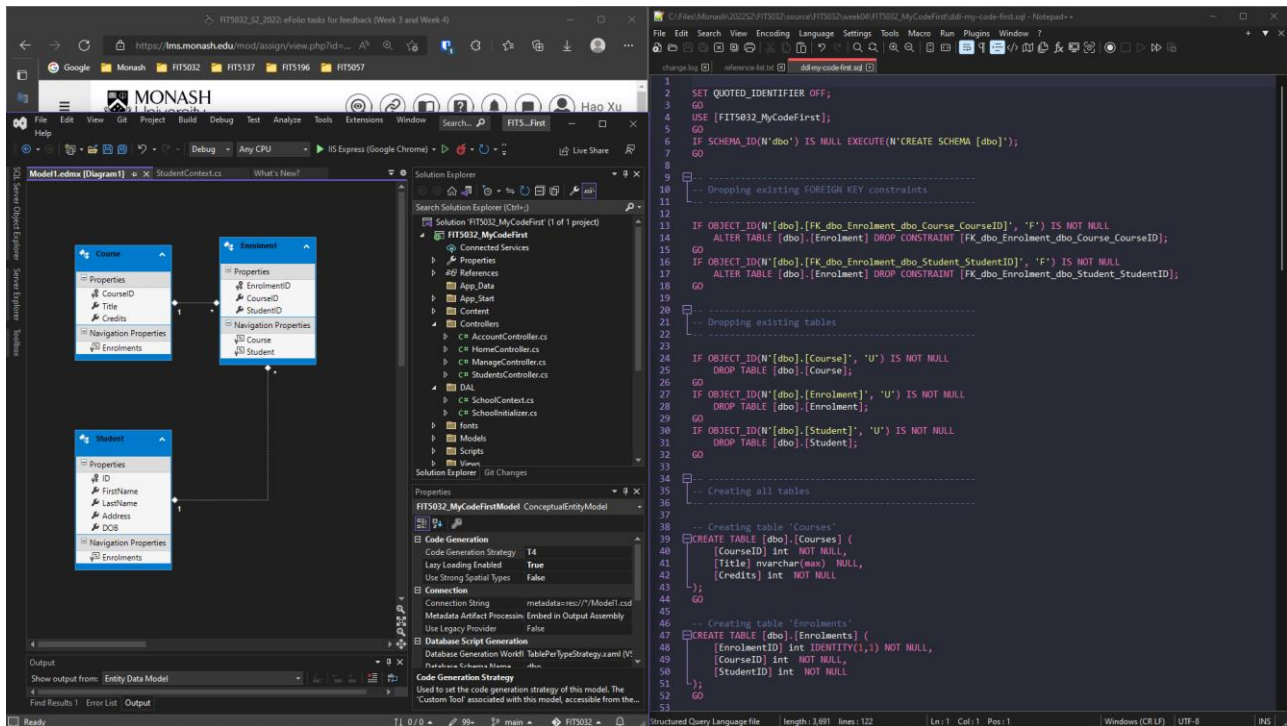
This screenshot shows a set of data to initialize the database:



This screenshot shows the ASP.NET MVC application is running successfully, and the database has been created and used successfully, based on the codes typed. The data is stored in LocalDB, whose .mdf file is in App\_Data folder.



This screen shows corresponding database schema and code which are created by EntityFramework Power Tool:



The screenshot displays the EntityFramework Power Tool interface. On the left, a diagram shows the database schema with three entities: **Course**, **Enrolment**, and **Student**. The **Course** entity has properties **CourseID**, **Title**, and **Credits**. The **Enrolment** entity has properties **EnrolmentID**, **CourseID**, and **StudentID**. The **Student** entity has properties **ID**, **FirstName**, **LastName**, **Address**, and **DOS**. The **Enrolment** entity is connected to both **Course** and **Student** entities.

On the right, the generated SQL script is shown. The script includes the following sections:

- SET QUOTED\_IDENTIFIER OFF;**
- USE [FIT5032\_MyCodeFirst];**
- IF SCHEMA\_ID(N'dbo') IS NULL EXECUTE(N'CREATE SCHEMA [dbo]');**
- Dropping existing FOREIGN KEY constraints:**
  - IF OBJECT\_ID(N'[dbo].[FK\_dbo\_Enrolment\_dbo\_Course\_CourseID]', 'F') IS NOT NULL ALTER TABLE [dbo].[Enrolment] DROP CONSTRAINT [FK\_dbo\_Enrolment\_dbo\_Course\_CourseID];**
  - IF OBJECT\_ID(N'[dbo].[FK\_dbo\_Enrolment\_dbo\_Student\_StudentID]', 'F') IS NOT NULL ALTER TABLE [dbo].[Enrolment] DROP CONSTRAINT [FK\_dbo\_Enrolment\_dbo\_Student\_StudentID];**
- Dropping existing tables:**
  - IF OBJECT\_ID(N'[dbo].[Course]', 'U') IS NOT NULL DROP TABLE [dbo].[Course];**
  - IF OBJECT\_ID(N'[dbo].[Enrolment]', 'U') IS NOT NULL DROP TABLE [dbo].[Enrolment];**
  - IF OBJECT\_ID(N'[dbo].[Student]', 'U') IS NOT NULL DROP TABLE [dbo].[Student];**
- Creating all tables:**
  - Creating table 'Courses':**

```
CREATE TABLE [dbo].[Courses] (
    [CourseID] int NOT NULL,
    [Title] nvarchar(max) NULL,
    [Credits] int NOT NULL,
);
```
  - Creating table 'Enrolments':**

```
CREATE TABLE [dbo].[Enrolments] (
    [EnrolmentID] int IDENTITY(1,1) NOT NULL,
    [CourseID] int NOT NULL,
    [StudentID] int NOT NULL,
);
```